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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/568,904	12/07/1995	LAVAUGHN F. WATTS JR.	TI-20567	7575

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EXAMINER	
MYERS, PAUL R	

ART UNIT	PAPER NUMBER
2112	

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/568,904	WATTS, LAVAUGHN F.	
	Examiner	Art Unit	
	Paul R. Myers	2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-21,23 and 74-122* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-21,23 and 74-122* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 17-21, 23, 74-122 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated by Jackson et al PN 4,727,500.

In regards to claim 18: Jackson teaches an apparatus (Fig 1) comprising: means for sampling a temperature (13) associated with the operation of said apparatus (Fig 1); means. responsive to said sampled temperature, for predicting future temperature associated with the operation of said apparatus (prediction algorithm); and means for using said prediction for automatic temperature control within said apparatus (Figure 3A).

4. Claims 17-18, 21, 74-79, 122 are rejected under 35 U.S.C. 102(e) as being anticipated by Dischler et al PN 6,311,287.

In regards to claims 17-18, 21, 74-76, 80-82, 92-96, 98-103, 107-109, 113, 116, 119, 122: Dischler teaches An apparatus (10) comprising: means for sampling a temperature (temperature sensor 21, T1 and T2) associated with the operation of a processing unit (12 or alternatively 13) within said apparatus; means. responsive to said sampled temperature, for predicting future temperature (20, T_{K+2}) associated with the operation of said processing unit (12 or alternatively 13); and means for using said prediction for automatic control of temperature (20 Column 4 lines 28-38) by controlling voltages (from 19) and clock frequency (from 17).

In regards to claims 77-79: Dischler teaches the processor is a CPU (Column 3 line 48).

In regards to claims 80-82: Dischler teaches the processor being in a notebook computer. A notebook computer inherently includes provisions for user input and output.

In regards to claims 92-96: Dischler teaches a temperature sensor (21) mounted within said processor (when said processor is taken as 12).

In regards to claims 98-100: Dischler teaches said temperature sensor being mounted on a printed wiring board adjacent to said processor (when said processor is taken as 13).

In regards to claims 101-103: Dischler teaches said temperature is sensed on a periodic basis (10 seconds).

In regards to claims 107-109: Dischler teaches the frequency of temperature sensing being user modifiable (Column 6 line60 to Column 7 line 27).

In regards to claim 113, 116, 119: Dischler teaches said clock manager restores the clock speed it the temperature decreases below a threshold.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 19-20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dischler et al PN 6,311,287 in view of Chen et al PN 5,422,806.

In regards to claims 19-20, 23: Dischler et al teaches the disclosed invention as discussed in regards to claims 17-18 and 23 above. Dischler et al does not teach user modification of automatic activity and temperature predictions. And using the modified predictions. Chen et al teaches that it is known to allow user modification of automatic activity and temperature level predictions and using the predictions for automatic temperature control (Column 7 lines 5-43; Column 8 lines 1-6). It would have been obvious to a person of ordinary skill in the art at the time of the invention to include user modification as taught by Chen et al because this would have allowed for the use of non linear temperature variation as considered in Chen et al.

7. Claims 83-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dischler et al PN 6,311,287 in view of Kikinis PN 5,502,838.

In regards to claims 83-88: Dischler et al teaches the clock being set to a minimum for various components other than just the processor including teaching a sleep state. Dischler et al does not state that this minimum can be a stopped clock or that the sleep state includes a stopped

clock. Kikinis teaches a system for controlling temperature buildup in an IC which employs a temperature sensor to provide an indication of the IC temperature to a control circuit which is configured to adjust the clock speed based upon a function of the temperature of the IC or its package (Abstract). Further, Kikinis teaches that it is known to selectively stop clock signals when the detected temperature rises above a reference temperature level (Abstract; Fig. 3, 6). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the selectively stopping the clock signals based upon rising temperatures exceeding a reference temperature as taught by Kikinis, to monitor the temperature levels in the computer, to prevent excessive temperature which may damage vital components or circuitry.

8. Claims 89-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dischler et al PN 6,311,287.

In regards to claims 89-91: Dischler et al's temperature controller does not appear to be on board the processor. MPEP 2144.04 V B states to make integral is not a patentable distinction. It would have been obvious to a person of ordinary skill in the art at the time of the invention to make the temperature controller be integral to the processor because this would have decreased the size.

9. Claims 104-106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dischler et al PN 6,311,287 in view of Hollowell, II et al PN 5,590,061.

In regards to claims 104-106: Dischler et al teaches the claimed temperature sensing and threshold. Dischler does not teach changing the frequency of temperature sensing as the

threshold is reached. Hollowell teaches the frequency of temperature sensing changes as the temperature reaches a preselected threshold value (col. 7, lines 44-50). It would have been obvious to increase the frequency of temperature sensing as the threshold is reached because this would have improved accuracy near the threshold.

10. Claims 110-112, 114-115, 117-118, 120-121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dischler et al PN 6,311,287 in view of Kikinis as applied to claims 83-88 above and further in view of Gephardt et al PN 5,493,684.

In regards to claims 110-112, 114-115, 117-118, 120-121: Dischler teaches the above claimed temperature control Kikinis teaches stopping the clock. Dischler and Kikinis disclose the claimed invention as discussed above. However, Kikinis does not teach a monitor stopping the clock signals to the CPU only when the CPU is not processing critical I/0. Gephardt teaches a power management that monitors CPU activity and dependent upon the type of activity, controls the frequencies of the CPU clock signal and system clock signal (Abstract; Fig. 6). Furthermore, Gephardt teaches the clock signals be raised if certain system activities are detected and to be lowered if certain other activities are detected (col. 2, lines 23-32, lines 64-67,. col. 3, lines 1 - 34). It would have been obvious to one having ordinary skill in the art at the time the invention was made to stop the clock only when the CPU is processing non-critical 1/0 as taught by Gephardt, to prevent losing any vital information or processing that may occur during an I/O operation.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul R. Myers whose telephone number is 571 272 3639. The examiner can normally be reached on Mon-Thur 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571 272 3632. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Paul R. Myers

PAUL R. MYERS
PRIMARY EXAMINER

PRM
May 11, 2005